

Spot Safety Project Evaluation

Project Log # 200611072

Spot Safety Project # 07-99-210

Spot Safety Project Evaluation of the Center Traffic Island Installation And Dual Stop Sign Placement on SR 2347 (Lake Brandt Rd) at SR 1002 (Scalesville Rd) in Guilford County

Documents Prepared By:

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1-30-07
Date

Spot Safety Project Evaluation Documentation

Subject Location

Evaluation of Spot Safety Project Number 07-99-210 – Center Traffic Island Installation and Dual Stop Sign Placement on SR 2347 (Lake Brandt Rd) at SR 1002 (Scalesville Rd) in Guilford County.

Project Information and Background from the Project File Folder

SR 2347 (Lake Brandt Road) is a two-lane 55 mph roadway that intersects with SR 1002 (Scalesville Rd), which is also a two-lane 55 mph facility. The intersection is controlled by a stop condition on SR 2347.

The original problem statement was that vehicles traveling on Lake Brandt were running the stop sign resulting in angle type collisions. The initial improvement recommended for this location was the installation of a signal, which was denied for an unspecified reason. The countermeasure improvement chosen for the subject location instead was to install a center traffic island on both of Lake Brandt approaches and to post dual stop signs for increased visibility.

The initial crash analysis was conducted from May 1, 1996 to April 30, 1999, which included 6 collisions and two deemed correctable by this countermeasure. The two (2) correctable crashes resulted in a fatality and a class “B” injury.

During the site visit to the study location on December 19, 2006, oversized stop signs were observed on the shoulder of both approaches of Lake Brandt Rd. These signs were not part of the original countermeasure, and were labeled with 2006 as their installation year. An advisory intersection speed limit of 40 mph was posted for SR 1002 (Scalesville Rd). In addition, a utility worker at the intersection also commented that the day before our arrival, he observed a “target crash” collision occur.

The final completion date for the improvements at the subject location was on April 2, 2002 at a cost of \$15,000.

Naïve Before and After Analysis

After reviewing the spot safety project file folder along with all the crashes along the subject road, the crash data omitted from this analysis to consider for an adequate construction period was from March 1, 2002 through May 31, 2002. The before period consisted of reported crashes from December 1, 1997 through February 28, 2002 (4 years, 3 Months) and the after period consisted of reported crashes from June 1, 2002 through August 3, 2006 (4 Years, 3 Months). The ending date for this analysis was determined by the available crash data at the time the crash analysis was completed.

The treatment data consisted of all crashes at the intersection with a 150' y-line. The following data table depicts the Naive Before and After Analysis for the above information. Please note that Frontal Impact crash types were the target crashes for the applied countermeasure. These crash types considered are as follows: Left Turn, same roadway; Left Turn, different roadway; Right Turn, same roadway; Right Turn, different roadway; Head On and Angle.

<u>Treatment Information</u>			
	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	10	9	- 10.00
Total Severity Index	19.86	3.47	- 82.53
Target Crashes	9	8	- 11.11
Target Severity Index	21.13	3.78	- 82.11
Volume	4,300	5,400	25.58
<u>Treatment Injury Crashes</u>			
	Before	After	Percent Reduction (-) Percent Increase (+)
Fatal	1	0	- 100.00
Class A	1	0	- 100.00
Class B	2	2	0.00
Class C	3	1	- 66.67
Property Damage Only	3	6	200.00

The naive before and after analysis at the treatment location resulted in a 10 percent decrease in Total Crashes, an 11 percent decrease in Frontal Impact Crashes and a 25 percent increase in Average Daily Traffic (ADT). The before period ADT year was 2000 and the after period ADT year was 2004.

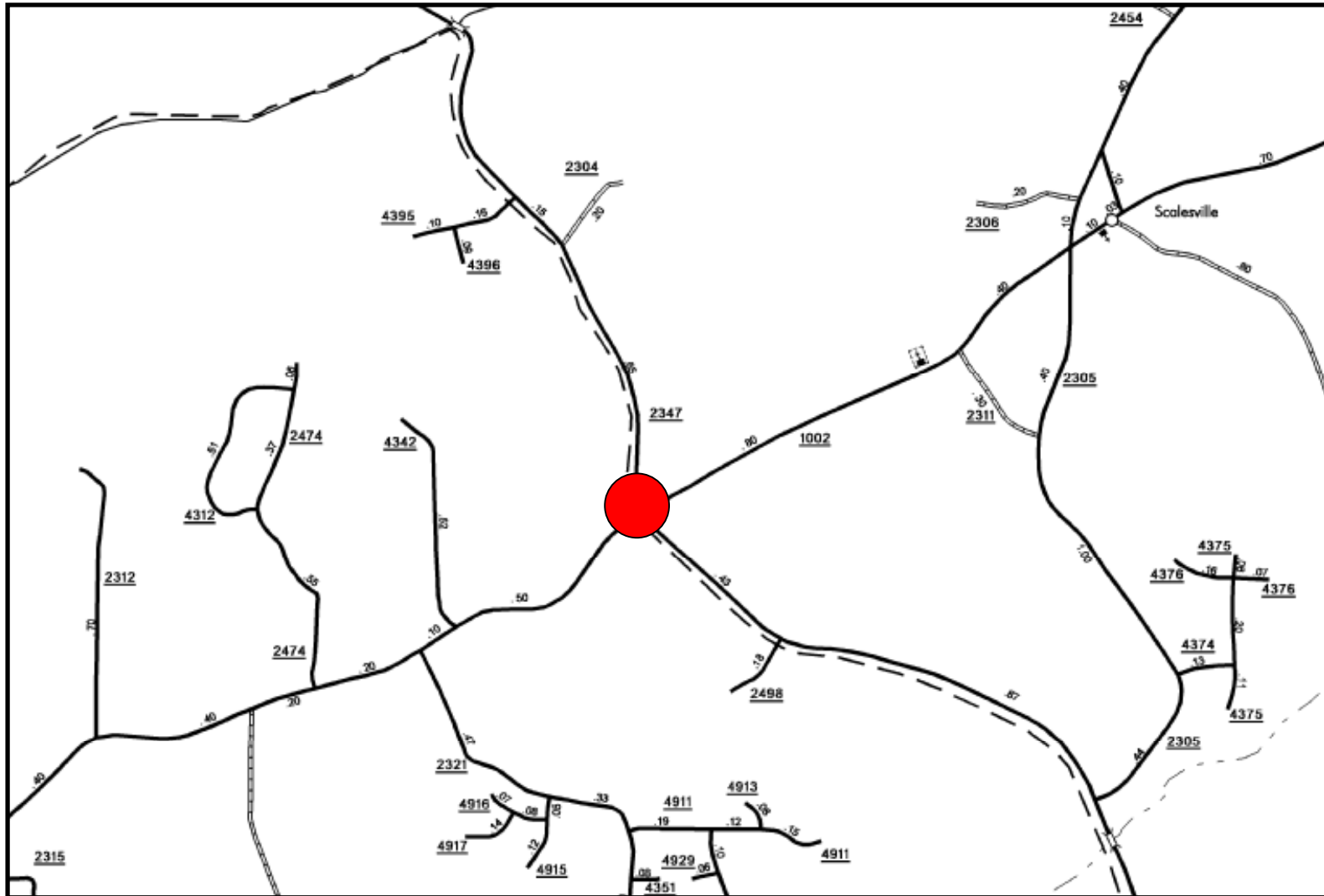
Results and Discussion

The naïve before and after analysis involving the comparison of treatment actual before data versus treatment actual after data resulted in a 10 percent decrease in Total Crashes and a 11 percent decrease in Frontal Impact Crashes. The summary results above demonstrate that the treatment location appears to have had a decrease in the number of Total Crashes and of Frontal Impact Crashes from the before to the after period.

The data does not show any significant changes from the before to the after period in the number of crashes, but there are a couple of observations that were noted. Even though there was only a slight reduction in the amount of crashes at this intersection, the severity index was greatly reduced from the before and after periods. The decline in crash severity is observed by no fatalities or "Class A" injury collisions in the after period study. The effectiveness of the countermeasure could be classified as satisfactory given the reduction of severity.

As the Safety Evaluation Group completes additional spot safety reviews for this type of countermeasure, we will be able to provide objective and definite information regarding actual crash reduction factors for this type of road.

Location Map
Guilford County
Evaluation of Spot Safety Project 07-99-210



Treatment Location: SR 1002 (Scalesville Rd) and SR 2347 (Lake Brandt Road)

Treatment Site Photos Taken December 19, 2006



Taken on SR 2347 (Lake Brandt Rd) Facing North



Facing South on SR 2347 (Lake Brandt Rd)



Facing East on SR 1002 (Scalesville Rd)



Facing West on SR 1002 (Scalesville Rd) – Notice Intersection Advisory Speed



Facing West on SR 1002 (Scalesville Rd)

LEGEND

	MOVING VEHICLE		ANGLE		9 MPH OR LESS		P PEDESTRIAN
	PEDESTRIAN		TURNING		10 MPH TO 19		T TRAIN
	PAKED VEHICLE		BACKING		20 MPH TO 29		* DRIVER AT FAULT
	PAKED VEHICLE		SIDESWIPE		30 MPH TO 39		D DRY
	FIXED OBJECT		OUT OF CONTROL		40 MPH TO 49		W WET
	HEAD ON		HIT AND RUN		50 MPH TO 59		I ICE OR SNOW
	REAR END		FATALITY		60 MPH TO 69		O ONLY
	RAN OFF ROAD				70 AND UP		
					SPEED UNKNOWN		

